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> Each R3 is independently aryl; phenyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

> > Each n is independently 1 or 2;

Each is independently 0, 1, 2, 3, or 4;

Each R4 is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; haloalkyl; SR5; OR5;  $OC(O)R^5; NR^5R^5; NR^5R^6; NR^5R^6; NR^5R^{16}; COOR^5; NO_2; CN; C(O)R^5; C(O)C(O)R^5; C(O)NR^5R^5;$  $S(O)_{n}R^{5}:S(O)_{n}NR^{5}R^{5};\ NR^{5}C(O)NR^{5}R^{5};\ NR^{5}C(O)C(O)R^{5};\ NR^{5}C(O)R^{5};\ NR^{5}(COOR^{5});$  $NR^{5}C(O)R^{8};\ NR^{5}S(O)_{n}NR^{5}R^{5};\ NR^{5}S(O)_{n}R^{5};\ NR^{5}S(O)_{n}R^{8};\ NR^{5}C(O)C(O)NR^{5}R^{5};$  $NR^{5}C(O)C(O)NR^{5}R^{6}; OC(O)NR^{5}R^{5}; QS(O)_{n}NR^{5}R^{5}; NR^{5}S(O)_{n}OR^{5}; P(O)(OR^{5})_{2}; C1-C10 \ alkyline (C1)(OR^{5})_{2}; C1-C10 \ alkyline (C1)(OR^{5}$ substituted with 1-3 independent aryl, R7 or R8; or C2-C10 alkenyl substituted with 1-3 independent aryl, R7 or R8;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R7 or R9 groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R7 or R<sup>9</sup> groups; or C2-C10 alkenyl substituted with 1/3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each R<sup>6</sup> is independently C(O)R<sup>5</sup>, COOR<sup>5</sup>, C(O)NR<sup>5</sup>R<sup>5</sup>, C(=N R<sup>5</sup>) NR<sup>5</sup>R<sup>5</sup>, or  $S(O)_n R^5$ ;

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(\Theta)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11},\ COOR^{10},\ NO_2,\ CN,\ C(O)R^{10},\ OC(O)NR^{10}R^{10},\ C(O)NR^{10}R^{10},\ N(R^{10})C(O)R^{10},\ N(R^{10})C(O)R$  $(COOR^{10}), S(O)_{p}NR^{10}R^{10}; NR^{10}S(O)_{p}NR^{10}R^{10}; NR^{10}S(O)_{p}R^{10}; or P(O)(OR^{5})_{2};$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; halo;\sulfur; oxygen; CF3; SR5;  $OR^5;\ OC(O)R^5;\ NR^5R^5;\ NR^5R^6;\ NR^6R^6;\ COOR^5;\ NO_2;\ CN;\ C(O)R^5;\ CO)NR^5R^5;\ S(O)_nNR^5R^5;$ NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>u</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

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Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 19 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substitutent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>, NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>0</sub>R<sup>10</sup>; S(O)<sub>0</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>. OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each  $R^{11}$  is independently  $C(Q)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_{a}R^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>5</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl;

C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; haloalkyl; COOR<sup>5</sup>; C(O)R<sup>5</sup>;

 $C(O)C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_nR^5$ ;  $S(O)_nNR^5R^5$ ; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$ ,  $R^8$ , or phenyl optionally substituted with substituted with 1-4 independent  $R^{23}$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ;

Each R<sup>23</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; haloalkyl; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each haloalkyl is independently a C1-C10 alkyl substituted with one or more halogen atoms, selected from F. Cl. Br, or I, including perhaloalkyl;

Each aryl is independently a 6-carbon monocyclic, 10-carbon bicyclic or 14-carbon tricyclic aromatic ring system optionally substituted with 1-3 independent C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; R9; halo; haloalkyl; OR10; SR10; NR10R10; NR10R11; COOR10; NO2; CN; C(O)R10; C(O)C(O)R10; C(O)NR10R10; N(R10)C(O)R10; N(R10)C(O)R10; N(R10)C(O)R10; N(R10)C(O)R10; N(R10)C(O)R10; NR10C(O)C(O)R10; NR10C(O)C(O)R10; NR10C(O)C(O)R10; NR10C(O)C(O)R10; NR10C(O)C(O)R10; NR10C(O)C(O)R10; NR10C(O)C(O)R10; NR10C(O)C(O)R10; C1-C10 alkyl substituted with 1-3 independent R9, halo, CF3, OR10, SR10, OC(O)R10, NR11R11, NR10R10, NR10R11, COOR10, NO2, CN, C(O)R10, OC(O)NR10R10, C(O)NR10R10, N(R10)C(O)R10, N(R10) (COOR10, SC10, SC10, OC(O)R10, NR11R11, NR10R10, NCR10, SC10, SC10, OC(O)R10, NCR11R11, NR10R10, NCR10, SC10, OC(O)R10, NCR11R11, NR10R10, NCR10, SC10, OC(O)R10, NCR11R11, NR10R10, NCR10R10, SC10, OC(O)R10, NCR11R11, NR10R10, NCR10R10, NCR10R10, NCR10, N

Each heterocyclyl is independently a 3-8 membered nonaromatic monocyclic, 8-12 membered nonaromatic bicyclic, or 11-14 membered nonaromatic tricyclic, ring system having 1-4 heteroatoms if monocyclic, 1-8 heteroatoms if bicyclic, or 1-10 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S;

Each heteroaryl is independently a 5-8 membered aromatic monocyclic, 8-12 membered aromatic bicyclic, or 11-14 membered aromatic tricyclic ring system having 1-4

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heteroatoms if monocyclic, 1-8 heteroatoms if bicyclic, or 1-10 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S;

provided R<sup>2</sup> and R<sup>2</sup> are not both 1-alkylpyridinium, both 4-pyridyl or both morpholino; further provided R1 is not NH2;

further provided R and R2 are not both hydroxy, methoxy, ethoxy or phenoxy;

further provided R<sup>1</sup> is not phenoxy, acetylamino, or methylamino when R<sup>2</sup> is morpholino;

further provided R<sup>1</sup> is not methoxy or hydroxy when R<sup>2</sup> is 4-chlorophenylamino;

further provided R1 is not phenoxy, methoxy or ethoxy when R2 is 4-

aminophenylsulfonylamino;

further provided R1 is not phenoxy when R2 is 4-methylthiophenylamino or sulfanilamido;

and further provided R<sup>1</sup> is not hydroxy when R<sup>2</sup> is hexylamino, phenylamino, 3methylphenylamino, 2-ethoxyphenylamino, 4 methylthiophenylamino, 2ethylsulfinylphenylamino, 3-propylsulfonylphenylamino, 4-acetylphenylamino, 4sulfamylphenylamino, 3-nitrophenylamino, 4-cyanophenylamino, 4-carboxyphenylamino, 4-(acetylamino)phenylamino, 4-biphenylamino, 1-naphthylamino, 4-pyridylamino, 2thiazolylamino, 4-quinolylamino, and 2-pyrimidinylamino,

2. The compound of claim 1 wherein,

R<sup>1</sup> is independently R<sup>3</sup>;

R<sup>2</sup> is independently NHR<sup>3</sup>;

Each R<sup>3</sup> is independently aryl; phenyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

Each R<sup>4</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^5R^5; NR^5R^6; NR^5R^{16}; COOR^5; NO_2; CN; C(O)R^5; C(O)C(O)R^5; C(O)NR^5R^5; S(O)_0R^5; C(O)R^5; C(O)R^$  $S(O)_nNR^5R^5$ ;  $NR^5C(O)NR^5R^5$ ;  $NR^5C(O)C(O)R^5$ ;  $NR^5C(O)R^5$ ;  $NR^5(COOR^5)$ ;  $NR^5C(O)R^8$ ; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>u</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>a</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

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Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_n$   $R^5$ ;

 $Each\ R^7\ is\ independently\ halo,\ CF_3,\ SR^{10},\ OR^{10},\ OC(O)R^{10},\ NR^{10}R^{10},\ NR^{10}R^{11},\\ NR^{11},\ COOR^{10},\ NO_2,\ CN,\ C(O)R^{10},\ OC(O)NR^{10}R^{10},\ C(O)NR^{10}R^{10},\ N(R^{10})C(O)R^{10},\ N(R^{10})C(O)R^{10},$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>n</sub>R<sup>10</sup>; S(O)<sub>n</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>0</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted

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with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each R<sup>11</sup> is independently C(O)R<sup>10</sup>, COOR<sup>10</sup>, C(O)NR<sup>10</sup>R<sup>10</sup> or S(O)<sub>n</sub>R<sup>10</sup>;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>,  $NR^{13}R^{13}$ ,  $COOR^{13}$ ,  $NO_{2\tau}CN$ ,  $C(O)R^{13}$ ,  $C(O)NR^{13}R^{13}$ ,  $NR^{13}C(O)R^{13}$ , or  $OC(O)R^{13}$ ; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN,  $C(O)R^{13}$ ,  $C(O)NR^{13}R^{13}$ ,  $NR^{13}C(O)R^{13}$ , or  $OC(O)R^{13}$ ;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkonyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl, C1-C10 alkyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>. SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF3; COOR5; C(O)R5; C(O)C(O)R5; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R7 or R8; and

Each R<sup>23</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^5R^5; NR^5R^6; COOR^5; NO_2; CN; C(O)R^5; C(O)C(O)R^5; C(O)NR^5R^5; S(O)_nR^5; S(O)_nNR^5R^5; S(O)_nNR^5; S(O)_nNR^5; S(O)_nNR^5; S(O)_nNR^5; S(O)_nNR^$  $NR^5C(O)NR^5R^5$ ;  $NR^5C(O)C(O)R^5$ ;  $NR^5C(O)R^5$ ;  $NR^5(COOR^5)$ ;  $NR^5C(O)R^8$ ;  $NR^5S(O)_nNR^5R^5$ ;  $NR^{5}S(O)_{b}R^{5}; \ NR^{5}S(O)_{b}R^{8}; \ NR^{5}C(O)C(O)NR^{5}R^{5}; \ NR^{5}C(O)C(O)NR^{5}R^{6}; \ OC(O)NR^{5}R^{5};$ OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

3. The compound of claim 1 wherein,

R<sup>1</sup> is independently heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

R<sup>2</sup> is independently NHR<sup>3</sup>;

Each R<sup>3</sup> is independently aryl; phenyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>16</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>a</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each R<sup>6</sup> is independently C(O)R<sup>5</sup>, COOR<sup>5</sup>, C(O)NR<sup>5</sup>R<sup>5</sup>, C(=NR<sup>5</sup>)NR<sup>5</sup>R<sup>5</sup>, or S(O)<sub>n</sub> R<sup>5</sup>:

 $Each\ R^7\ is\ independently\ halo,\ CF_3,\ SR^{10},\ OR^{10},\ OC(O)R^{10},\ NR^{10}R^{10},\ NR^{10}R^{11},\\ NR^{11}R^{11},\ COOR^{10},\ NO_2,\ CN,\ C(O)R^{10},\ OC(O)NR^{10}R^{10},\ C(O)NR^{10}R^{10},\ N(R^{10})C(O)R^{10},\ N(R^{10})C(O)R$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>: NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

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Each R<sup>0</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>n</sub>R<sup>10</sup>; S(O)<sub>n</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl;

C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>;

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 $C(O)NR^5R^5$ ;  $S(O)_nR^5$ ;  $S(O)_nNR^5R^5$ ; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$ ,  $R^8$ , or phenyl optionally substituted with substituted with 1-4 independent  $R^{23}$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ; and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup> S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

### 4. The compound of claim 1 wherein,

 $R^1$  is independently phenyl optionally substituted with 1-5 independent  $R^4$ ;  $R^2$  is independently NHR<sup>3</sup>;

Each R<sup>3</sup> is independently aryl; phenyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF3; SR5; OR5; OC(O) $R^5$ ; NR5 $R^5$ ; NR5 $R^6$ ; NR5 $R^6$ ; NR5 $R^6$ ; NO2; CN; C(O) $R^5$ ; C(O)C(O) $R^5$ ; C(O)NR5 $R^5$ ; S(O)<sub>a</sub>R5; S(O)<sub>a</sub>R5; NR5C(O)NR5 $R^5$ ; NR5C(O)NR5 $R^5$ ; NR5C(O)R6; NR5C(O)

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each R<sup>6</sup> is independently C(O)R<sup>5</sup>, COOR<sup>5</sup>, C(O)NR<sup>5</sup>R<sup>5</sup>, C(=NR<sup>5</sup>)NR<sup>5</sup>R<sup>5</sup>, or S(O)<sub>n</sub>

R<sup>5</sup>:

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> Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11},COOR^{10},NO_2,CN,C(O)R^{10},OC(O)NR^{10}R^{10},C(O)NR^{10}R^{10},N(R^{10})C(O)R^{10},N(R^$  $(COOR^{10}),\ S(O)_nNR^{10}R^{10};\ NR^{10}S(O)_nNR^{10}R^{10};\ NR^{10}S(O)_nR^{10};\ or\ P(O)(OR^5)_2;$

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; halo; sulfur; oxygen; CF3; SR5;  $OR^5; OC(O)R^5; NR^5R^5; NR^5R^6; NR^6R^6; COOR^5; NO_2; CN; C(O)R^5; C(O)NR^5R^5; S(O)_0NR^5R^5; S(O)_0NR^5; S(O)_0NR^5R^5; S(O)_0NR^5R^5; S(O)_0NR^5R^5;$  $NR^5C(O)NR^5R^5$ ;  $NR^5C(O)R^9$ ;  $NR^5S(O)_0NR^5R^5$ ;  $NR^5S(O)_0R^9$ ; C1-C10 alkyl substituted with 1-3 independent R7, R9 or aryl; or C2-C10 alkenyl substituted with 1-3 independent R7, R9 or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>;  $OR^{10}$ ;  $NR^{10}R^{10}$ ;  $NR^{10}R^{11}$ ;  $NR^{11}R^{11}$ ;  $COOR^{10}$ ;  $NO_2$ ; CN;  $C(O)R^{10}$ ;  $S(O)_nR^{10}$ ;  $S(O)_nNR^{10}R^{10}$ ; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10  $cycloalkenyl, OR^{12}, SR^{12}, NR^{12}R^{12}, COOR^{12}, NO_2, CN, C(O)R^{12}, C(O)NR^{12}R^{12}, NR^{12}C(O)R^{12}, C(O)R^{12}R^{12}, C(O)R^{12}R^{12}R^{12}, C(O)R^{12}R^{12}R^{12}, C(O)R^{12}R^{12}R^{12}R^{12}, C(O)R^{12}R^$ N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>a</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ; Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl: C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C25 6498 301

C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>. NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each  $R^{16}$  is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$ ,  $R^8$ , or phenyl optionally substituted with substituted with 1-4 independent  $R^{23}$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ; and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF3; SR5; OR5; OC(O)R5; NR5R5; NR5R6; COOR5; NO2; CN; C(O)R5; C(O)C(O)R5; C(O)NR5R5; S(O)nNR5R5; S(O)nNR5R5; NR5C(O)NR5R5; NR5C(O)C(O)R5; NR5C(O)R5; NR5C(O)R5; NR5C(O)R8; NR5C(O)R8; NR5C(O)nNR5R5; NR5C(O)R8; NR5C(O)NR5R5; NR5C(O)NR5R5; NR5C(O)C(O)NR5R5; NR5C(O)C(O)NR5R5; NR5C(O)C(O)NR5R5; OC(O)NR5R5; OC(O)N

5. The compound of claim 1 wherein,

Each  $R^1$  and  $R^2$  is independently NHR<sup>3</sup>;

Each  $R^3$  is independently aryl; phenyl optionally substituted with 1-5 independent  $R^4$  on each ring; or heteroaryl optionally substituted with 1-4 independent  $R^4$  on each ring;

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF3; SR5; OR5; OC(O) $R^5$ ; NR5 $R^5$ ; NR5 $R^6$ ; NR5 $R^6$ ; NR5 $R^6$ ; NO2; CN; C(O) $R^5$ ; C(O)C(O) $R^5$ ; C(O)NR5 $R^5$ ; S(O) $R^5$ ; S(O) $R^5$ ; S(O) $R^5$ ; NR5 $R^$ 

 $NR^5S(O)_nNR^5R^5$ ;  $NR^5S(O)_nR^5$ ;  $NR^5S(O)_nR^8$ ;  $NR^5C(O)C(O)NR^5R^5$ ;  $NR^5C(O)C(O)NR^5R^6$ ;  $OC(O)NR^5R^5$ ;  $OS(O)_nNR^5R^5$ ;  $NR^5S(O)_nOR^5$ ;  $P(O)(OR^5)_2$ ; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_n$   $R^5$ :

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11}$ ,  $COOR^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})$  ( $COOR^{10}$ ),  $S(O)_nNR^{10}R^{10}$ ;  $NR^{10}S(O)_nNR^{10}R^{10}$ ;  $NR^{10}S(O)_nR^{10}$ ; or  $P(O)(OR^5)_2$ ;

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>, SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>, NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsarurated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CP<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>n</sub>R<sup>10</sup>; S(O)<sub>n</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-

3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo,  $CF_3$ ,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each  $R^{16}$  is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$ ,  $R^8$ , or phenyl optionally substituted with substituted with 1-4 independent  $R^{23}$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ; and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

R<sup>5</sup>:

 $\delta\hspace{-0.07cm} \setminus$  The compound of claim 1 wherein,

R<sup>1</sup> is independently NHR<sup>5</sup>;

R<sup>2</sup> is independently NHR<sup>3</sup>;

Each R<sup>3</sup> is independently aryl; phonyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

Each R<sup>4</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>R<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl, aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each R<sup>6</sup> is independently C(O)R<sup>5</sup>, COOR<sup>5</sup>, C(O)NR<sup>5</sup>R<sup>5</sup>, C(=NR<sup>5</sup>)NR<sup>5</sup>R<sup>5</sup>, or S(O)<sub>n</sub>

 $Each\ R^7\ is\ independently\ halo,\ CF_3,\ SR^{10},\ OR^{10},\ OC(O)R^{10},\ NR^{10}R^{10},\ NR^{10}R^{11},\\ NR^{11}R^{11},\ COOR^{10},\ NO_2,\ CN,\ C(O)R^{10},\ OC(O)NR^{10}R^{10},\ C(O)NR^{10}R^{10},\ N(R^{10})C(O)R^{10},\ N(R^{10})C(O)R$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen: CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R° is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substitutent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>n</sub>R<sup>10</sup>; S(O)<sub>n</sub>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1 C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl;

C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>;

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C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R7 or R8; and

Each R<sup>23</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^{5}R^{5}; NR^{5}R^{6}; COOR^{5}; NO_{2}; CN; C(O)R^{5}; C(O)C(O)R^{5}; C(O)NR^{5}R^{5}; S(O)_{0}R^{5}; S(O)_{n}NR^{5}R^{5};$  $NR^{5}C(O)NR^{5}R^{5}$ ;  $NR^{5}C(O)C(O)R^{5}$ ;  $NR^{5}C(O)R^{5}$ ;  $NR^{5}(COOR^{5})$ ;  $NR^{5}C(O)R^{8}$ ;  $NR^{5}S(O)_{0}NR^{5}R^{5}$ ;  $NR^{5}S(O)_{n}R^{5}; NR^{5}S(O)_{n}R^{8}; NR^{5}C(O)C(O)NR^{5}R^{5}; NR^{5}C(O)C(O)NR^{5}R^{6}; OC(O)NR^{5}R^{5};$ OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; Cl<sub>2</sub>C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; provided R1 is not NH2.

7. The compound of claim 1 wherein,

R<sup>1</sup> is independently NHR<sup>6</sup>;

R<sup>2</sup> is independently NHR<sup>3</sup>;

Each R<sup>3</sup> is independently aryl; phenyl optionally substituted with 1-5 independent R4 on each ring; or heteroaryl optionally substituted with 1-4 independent R4 on each ring;

Each R4 is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^{5}R^{5};\ NR^{5}R^{6};\ NR^{5}R^{16};\ COOR^{5};\ NO_{2};\ CN;\ C(O)R^{5};\ C(O)C(O)R^{5};\ C(O)NR^{5}R^{5};\ S(O)_{n}R^{5}=0$  ${}^{5}(O)_{11}NR^{5}R^{5}; NR^{5}C(O)NR^{5}R^{5}; NR^{5}C(O)C(O)R^{5}; NR^{5}C(O)R^{5}; NR^{5}(COOR^{5}); NR^{5}C(O)R^{8};$  $NR^{5}S(O)_{n}NR^{5}R^{5};\ NR^{5}S(O)_{n}R^{5};\ NR^{5}S(O)_{n}R^{6};\ NR^{5}C(O)C(O)NR^{5}R^{5};\ NR^{5}C(O)C(O)NR^{5}R^{6};$ OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>a</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>a</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each R<sup>6</sup> is independently C(O)R<sup>5</sup>, COOR<sup>5</sup>, C(O)NR<sup>5</sup>R<sup>5</sup>, C(=NR<sup>5</sup>)NR<sup>5</sup>R<sup>5</sup>, or S(O)<sub>n</sub>

R5:

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Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11},COOR^{10},NO_2,CN,C(O)R^{10},OC(O)NR^{10}R^{10},C(O)NR^{10}R^{10},N(R^{10})C(O)R^{10},N(R^$  $(COOR^{10}), S(O)_nNR^{10}R^{10}; NR^{10}S(O)_nNR^{10}R^{10}; NR^{10}S(O)_nR^{10}; or P(O)(OR^5)_2;$ 

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Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; halo; sulfur; oxygen; CF3; SR5;  $OR^5$ ;  $OC(O)R^5$ ;  $NR^5R^5$ ;  $NR^5R^6$ ;  $NR^6R^6$ ;  $COOR^5$ ;  $NO_2$ ; CN;  $C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_nNR^5R^5$ ; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R7, R9 or aryl; or C2-C10 alkenyl substituted with 1-3 independent R7, R9 or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF3; haloalkyl; SR 10,  $OR^{10}; NR^{10}R^{10}; NR^{10}R^{11}; NR^{11}R^{11}; COOR^{10}; NO_2; CN; C(O)R^{10}; S(O)_{a}R^{10}; S(O)_{n}NR^{10}R^{10}; or$ C(O)NR10R10:

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10  $cycloalkenyl, OR^{12}, SR^{12}, NR^{12}R^{12}, COOR^{12}, NO_2, CN, C(O)R^{12}, C(O)NR^{12}R^{12}, NR^{12}C(O)R^{12}, C(O)R^{12}R^{12}, C(O)R^{12}, C(O)R^{12}R^{12}, C(O)R^{12}R^{12}, C(O)R^{12}R^{12}, C(O)R^$ N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_{m}NR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2**3**499 80

C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each  $R^{16}$  is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$ ,  $R^8$ , or phenyl optionally substituted with substituted with 1-4 independent  $R^{23}$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ; and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>, OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>0</sub>R<sup>5</sup>; S(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>0</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>0</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>0</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

8. The compound of claim 1 wherein,

R<sup>1</sup> is independently OR<sup>5</sup>;

R<sup>2</sup> is independently NHR<sup>3</sup>;

Each R<sup>3</sup> is independently aryl; phenyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

Each R<sup>4</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>. SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; COOR<sup>5</sup>; COOR<sup>5</sup>

 $S(O)_nNR^5R^5; NR^5C(O)NR^5R^5; NR^5C(O)C(O)R^5; NR^5C(O)R^5; NR^5(COOR^5); NR^5C(O)R^8; NR^5S(O)_nNR^5R^5; NR^5S(O)_nR^5; NR^5S(O)_nR^8; NR^5C(O)C(O)NR^5R^5; NR^5C(O)C(O)NR^5R^6; OC(O)NR^5R^5; OS(O)_nNR^5R^5; NR^5S(O)_nOR^5; P(O)(OR^5)_2; C1-C10 alkyl substituted with 1-3 independent aryl, <math>R^7$  or  $R^8$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ;

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Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_u$ 

R⁵;

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11}$ ,  $COOR^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})C(O)$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>6</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>, CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic. 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heterostoms if monocyclic. 1-6 heterostoms if bicyclic, or 1-9 heterostoms if tricyclic, said heterostoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>0</sub>R<sup>10</sup>; S(O)<sub>0</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

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Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent &1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR\2, SR12, NR12R12, COOR12, NO2, CN, C(O)R12, C(O)NR12R12, NR12C(O)R12,  $N(R^{12})(COOR^{12})$ ,  $S(O)_aNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COQR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each R<sup>11</sup> is independently C(O)R<sup>10</sup>, COOR<sup>10</sup>, C(O)NR<sup>10</sup>R<sup>10</sup> or S(O)<sub>n</sub>R<sup>10</sup>;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>,  $NR^{13}R^{13}$ ,  $COOR^{13}$ ,  $NO_2$ , CN,  $C(O)R^{13}$ ,  $C(O)NR^{13}R^{13}$ ,  $NR^{13}C(O)R^{13}$ , or  $OC(O)R^{13}$ ; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN,  $C(O)R^{13}$ ,  $C(O)NR^{13}R^{13}$ ,  $NR^{13}C(O)R^{13}$ , or  $OC(O)R^{13}$ ;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR14, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; COOR5; C(O)R5; C(O)C(O)R5; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R7 or R8, and

Each R<sup>23</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^{5}R^{5}; NR^{5}R^{6}; COOR^{5}; NO_{2}; CN; C(O)R^{5}; C(O)C(O)R^{5}; C(O)NR^{5}R^{5}; S(O)_{h}R^{5}: S(O)_{h}NR^{5}R^{5};$  $NR^{5}C(O)NR^{5}R^{5};\ NR^{5}C(O)C(O)R^{5};\ NR^{5}C(O)R^{5};\ NR^{5}C(O)R^{5};\$  $NR^5S(O)_nR^5;\ NR^5S(O)_nR^8;\ NR^5C(O)C(O)NR^5R^5;\ NR^5C(O)C(O)NR^5R^6;\ \Diamond C(O)NR^5R^5;$ 

OS(O), NR5R5; NR5S(O), OR5; P(O)(OR5)2; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ;

provided R is not methoxy or hydroxy when R2 is 4-chlorophenylamino; further provided  $R^1$  is not phenoxy, methoxy or ethoxy when  $R^2$  is 4-aminophenylsulfonylamino; and

further provided  $R^1$  is not phenoxy when  $R^2$  is 4-methylthiophenylamino or sulfanilamide.

9. The compound of claim 1 wherein,

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R1 is independently SR5;

R<sup>2</sup> is independently NHR<sup>3</sup>;

Each R<sup>3</sup> is independently aryl; phenyl optionally substituted with 1-5 independent R4 on each ring; or heteroaryl optionally substituted with 1-4 independent R4 on each ring;

Each R4 is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^5R^5$ ;  $NR^5R^6$ ;  $NR^5R^{16}$ ;  $COOR^5$ ;  $NO_4$ ; CN;  $C(O)R^5$ ;  $C(O)C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_nR^5$ :  $S(O)_{b}NR^{5}R^{5}; NR^{5}C(O)NR^{5}R^{5}; NR^{5}C(O)C(O)R^{5}; NR^{5}C(O)R^{5}; NR^{5}(COOR^{5}); NR^{5}C(O)R^{8};$  $NR^{5}S(O)_{n}NR^{5}R^{5};\ NR^{5}S(O)_{n}R^{5};\ NR^{5}S(O)_{n}R^{8}\backslash NR^{5}C(O)C(O)NR^{5}R^{5};\ NR^{5}C(O)C(O)NR^{5}R^{6};$  $OC(O)NR^5R^5$ ;  $OS(O)_aNR^5R^5$ ;  $NR^5S(O)_nOR^5$ ;  $P(O)(OR^5)_2$ ; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R5 is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R°; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R7 or R9 groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R7 or R<sup>9</sup> groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $\mathbb{R}^6$  is independently  $C(O)\mathbb{R}^5$ ,  $C(O)\mathbb{N}\mathbb{R}^5\mathbb{R}^5$ ,  $C(=\mathbb{N}\mathbb{R}^5)\mathbb{N}\mathbb{R}^5\mathbb{R}^5$ , or

 $S(O)_{\pi}R^{5};$ 

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11},COOR^{10},NO_2,CN,C(O)R^{10},OC(O)NR^{10}R^{10},C(O)NR^{10}R^{10},N(R^{10})C(O)R^{10},N(R^$  $(COOR^{10}), S(O)_{n}NR^{10}R^{10}; NR^{10}S(O)_{n}NR^{10}R^{10}; NR^{10}S(O)_{n}R^{10}; or \ P(O)(OR^{5})_{2};$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, r 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substitutent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; halo; sulfur; oxygen; CF3; SR5; OR5; OC(O)R5; NR5R6; NR6R6; COOR5; NO2; CN; C(O)R5; C(O)NR5R5; S(O)<sub>n</sub>NR5R5; NR5C(O)NR5R5; NR5C(O)R9; NR5S(O)<sub>n</sub>NR5R5; NR5S(O)<sub>n</sub>R9; C1-C10 alkyl substituted with 1-3 independent R7, R9 or aryl; or C2-C10 alkenyl substituted with 1-3 independent R7, R9 or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>n</sub>R<sup>10</sup>; S(O)<sub>n</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>0</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>0</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>.

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl; Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl;

C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>, and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>0</sub>R<sup>5</sup>; S(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>6</sup>; NR<sup>5</sup>S(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>0</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>0</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>0</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>0</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

### 10. The compound of claim 1 wherein:

R<sup>2</sup> is independently NHR<sup>3</sup>;

R1 is one of the following groups:

$$R^4$$
 $R^4$ 
 $R^4$ 
 $R^4$ 
 $R^4$ 

Each R<sup>3</sup> is independently aryl; phenyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>R<sup>5</sup> NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each R<sup>6</sup> is independently C(O)R<sup>5</sup>, COOR<sup>5</sup>, C(O)NR<sup>5</sup>R<sup>5</sup>, C(=NR<sup>5</sup>)NR<sup>5</sup>R<sup>5</sup>, or S(O)<sub>n</sub>
R<sup>5</sup>:

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11}$ ,  $COOR^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})C(O)$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substitutent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>;

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OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>0</sub>R<sup>10</sup>; S(O)<sub>0</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each  $R^{10}$  is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo,  $CF_3$ ,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>;

 $NR^5C(O)NR^5R^5; NR^5C(O)C(O)R^5; NR^5C(O)R^5; NR^5(COOR^5); NR^5C(O)R^8; NR^5S(O)_nNR^5R^5; NR^5S(O)_nR^5; NR^5S(O)_nR^5; NR^5C(O)C(O)NR^5R^5; NR^5C(O)C(O)NR^5R^6; OC(O)NR^5R^5; OS(O)_nNR^5R^5; NR^5S(O)_nOR^5; P(O)(OR^5)_2; C1-C10 alkyl substituted with 1-3 independent aryl, <math>R^7$  or  $R^8$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ;

# 11. The compound of claim 1 wherein,

R<sup>1</sup> is independently heterocyclyl optionally substituted with 1-4 independent R<sup>4</sup> on each ring, wherein said heterocyclyl is not unsubstituted piperidine;

R<sup>2</sup> is independently NHR<sup>3</sup>;

Each  $R^3$  is independently aryl; phenyl optionally substituted with 1-5 independent  $R^4$  on each ring; or heteroaryl optionally substituted with 1-4 independent  $R^4$  on each ring;

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_n$  $R^5$ ;

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11}$ ,  $COOR^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})C(O)$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be

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substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; halo; sulfur; oxygen; CF3; SR5;  $OR^5$ ;  $OC(O)R^5$ ;  $NR^5R^5$ ;  $NR^5R^6$ ;  $NR^6R^6$ ;  $COOR^5$ ;  $NO_2$ ; CN;  $C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_uNR^5R^5$ ; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R7, R9 or aryl; or C2-C10 alkenyl substituted with 1-3 independent R7, R9 or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0. 1. 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur, oxygen; CF3; haloalkyl; SR10;  $OR^{10}; NR^{10}R^{10}; NR^{10}R^{11}; NR^{11}R^{11}; COOR^{10}; NO_2; CN; C(O)R^{10}; S(O)_nR^{10}; S(O)_nNR^{10}R^{10}; or$ C(O)NR<sup>10</sup>R<sup>10</sup>:

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>,  $NR^{13}R^{13}$ ,  $COOR^{13}$ ,  $NO_2$ , CN,  $C(O)R^{13}$ ,  $C(O)NR^{13}R^{13}$ ,  $NR^{13}C(O)R^{13}$ , or  $OC(O)R^{13}$ ; or phenyloop optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN,  $C(O)R^{13}$ ,  $C(O)NR^{13}R^{13}$ ,  $NR^{13}C(O)R^{13}$ , or  $OC(O)R^{13}$ ;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR14, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl;

C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>;

C(O)NR<sup>5</sup>R<sup>5</sup>: S(O)<sub>n</sub>R<sup>5</sup> S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>6</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

## 12. The compound of claim 1 wherein,

substituted with 1-3 independent aryl, R7 or R8; and

Each R<sup>1</sup> is independently heteroaryl substituted with 1-4 independent R<sup>4</sup> on each ring, wherein said heteroaryl comprises at least one nitrogen heteroatom and said heteroaryl is attached at said nitrogen heteroatom;

Each R<sup>2</sup> is independently NHR<sup>3</sup>;

Each  $R^3$  is independently aryl; phenyl optionally substituted with 1-5 independent  $R^4$  on each ring; or heteroaryl optionally substituted with 1-4 independent  $R^4$  on each ring;

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>, P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; cor R<sup>9</sup> groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_n$   $R^5$ ;

 $Each\ R^7\ is\ independently\ halo,\ CF_3,\ SR^{10},\ OR^{10},\ OC(O)R^{10},\ NR^{10}R^{10},\ NR^{10}R^{11},\\ NR^{11}R^{11},\ COOR^{10},\ NO_2,\ CN,\ C(O)R^{10},\ OC(O)NR^{10}R^{10},\ C(O)NR^{10}R^{10},\ N(R^{10})C(O)R^{10},\ N(R^{10})C(O)R$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>0</sub>R<sup>10</sup>; S(O)<sub>n</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each  $R^{10}$  is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ; or phenyl optionally substituted with 1-3

independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each  $R^{16}$  is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$ ,  $R^8$ , or phenyl optionally substituted with substituted with 1-4 independent  $R^{23}$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ; and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

13. The compound of claim 1 wherein,

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Each R<sup>1</sup> is independently heterocyclyl substituted with 1-4 independent R<sup>4</sup> on each ring, wherein said heterocyclyl is not unsubstituted piperidine, and said heterocyclyl comprises at least one nitrogen heteroatom and said heterocyclyl is attached at said nitrogen heteroatom;

Each R<sup>2</sup> is independently NHR<sup>3</sup>;

Each  $R^3$  is independently aryl; phenyl optionally substituted with 1-5 independent  $R^4$  on each ring; or heteroaryl optionally substituted with 1-4 independent  $R^4$  on each ring;

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>16</sup>: COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_n$  $R^5$ :

 $Each\ R^7\ is\ independently\ halo,\ CF_3,\ SR^{10},\ OR^{10},\ OC(O)R^{10},\ NR^{10}R^{10},\ NR^{10}R^{11},\\ NR^{11},\ COOR^{10},\ NO_2,\ CN,\ C(O)R^{10},\ OC(O)NR^{10}R^{10},\ C(O)NR^{10}R^{10},\ N(R^{10})C(O)R^{10},\ N(R^{10})C(O)R^{10},$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>;

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NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>0</sub>R<sup>10</sup>; S(O)<sub>0</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each R<sup>11</sup> is independently C(O)R<sup>10</sup>, COOR<sup>10</sup>, C(O)NR<sup>10</sup>R<sup>10</sup> or S(O)<sub>n</sub>R<sup>10</sup>;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

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Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF3; SR5; OR5; OC(O)R5; NR5R5; NR5R6; COOR5; NO2; CN; C(O)R5; C(O)C(O)R5; C(O)NR5R5; S(O)nR5R5; S(O)nNR5R5; NR5C(O)NR5R5; NR5C(O)C(O)R5; NR5C(O)R5; NR5C(O)R6; NR5C(O

## 14. The compound of claim 1 wherein,

Each R<sup>2</sup> is independently NHR<sup>3</sup>;

Each R<sup>1</sup> is independently of the formula:

Each R<sup>3</sup> is independently aryl; phenyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>16</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>, NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>;

OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; r C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R7 or R9 groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R7 or R<sup>9</sup> groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_n$ **R**<sup>5</sup>;

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11},COOR^{10},NO_2,CN,C(O)R^{10},OC(O)NR^{10}R^{10},C(O)NR^{10}R^{10},N(R^{10})C(O)R^{10},N(R^$  $(COOR^{10}),\ S(O)_nNR^{10}R^{10};\ NR^{10}S(O)_nNR^{10}R^{10};\ NR^{10}S(O)_nR^{10};\ or\ P(O)(OR^5)_2;$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; halo; sulfur; oxygen; CF3; SR5;  $OR^5$ ;  $OC(O)R^5$ ;  $NR^5R^5$ ;  $NR^5R^6$ ;  $NR^6R^6$ ;  $COOR^5$ ;  $NO_2$ ; CN;  $C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_nNR^5R^5$ ; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF3; haloalkyl; SR10;  $OR^{10}; NR^{10}R^{10}; NR^{10}R^{11}; NR^{11}R^{11}; COOR^{10}; NO_2; CN; C(O)R^{10}; S(O)_nR^{10}; S(O)_nNR^{10}R^{10}; or$ C(O)NR10R10;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10

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cycloalkenyl,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo,  $CF_3$ ,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>15</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each  $R^{16}$  is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$ ,  $R^8$ , or phenyl optionally substituted with substituted with 1-4 independent  $R^{23}$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ; and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>u</sub>R<sup>5</sup> S(O)<sub>u</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>u</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>u</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>u</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>u</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>u</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

15. The compound of claim 1 wherein,

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Each R<sup>2</sup> is independently NHR<sup>3</sup>;

Each R<sup>1</sup> is independently of the formula:

Each X is independently O or S;

Each R3 is independently aryl; phenyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

Each R4 is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^5R^5$ ;  $NR^5R^6$ :  $NR^5R^{16}$ ;  $COOR^5$ ;  $NO_2$ ; CN;  $C(O)R^5$ ;  $C(O)C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_0R^{51}$  $S(O)_bNR^5R^5$ ;  $NR^5C(O)NR^5R^5$ ;  $NR^5C(O)C(O)R^5$ ;  $NR^5C(O)R^5$ ;  $NR^5C(O)R^5$ ;  $NR^5C(O)R^8$ ;  $NR^{5}S(O)_{n}NR^{5}R^{5}; NR^{5}S(O)_{n}R^{5}; NR^{5}S(O)_{n}R^{8}; NR^{5}C(O)C(O)NR^{5}R^{5}; NR^{5}C(O)C(O)NR^{5}R^{6};$ OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each R<sup>6</sup> is independently C(O)R<sup>5</sup>, COOR<sup>5</sup>, C(O)NR<sup>5</sup>R<sup>5</sup>, C(=NR<sup>5</sup>)NR<sup>5</sup>R<sup>5</sup>, or S(O)<sub>n</sub>

R5;

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Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11}$ ,  $COOR^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})C(O)$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substitutent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo: sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>0</sub>R<sup>10</sup>; S(O)<sub>0</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-

C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; and

Each R<sup>23</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

16. The compound of claim 1 wherein,

Each R<sup>2</sup> is independently NHR<sup>3</sup>;

Each R1 is independently of the formula:

Each X is independently O or S;

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Each R<sup>3</sup> is independently aryl: phenyl optionally substituted with 1-5 independent R4 on each ring; or heteroaryl optionally substituted with 1-4 independent R4 on each ring;

Each R4 is independently selected from H. C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^5R^5$ ;  $NR^5R^6$ ;  $NR^5R^{16}$ ;  $COOR^5$ ;  $NO_2$ ; CN;  $C(O)R^5$ ;  $C(O)C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_nR^{5}$ ;  $S(O)_{n}NR^{5}R^{5}$ ;  $NR^{5}C(O)NR^{5}R^{5}$ ;  $NR^{5}C(O)C(O)R^{5}$ ;  $NR^{5}C(O)R^{5}$ ;  $NR^{5}(COOR^{5})$ ;  $NR^{5}C(O)R^{8}$ ;  $NR^{5}S(O)_{n}NR^{5}R^{5}$ ;  $NR^{5}S(O)_{n}R^{5}$ ;  $NR^{5}S(O)_{n}R^{8}$ ;  $NR^{5}C(O)C(O)NR^{5}R^{5}$ ;  $NR^{5}C(O)C(O)NR^{5}R^{6}$ ; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R7 or R8; or C2-C10 alkenyl substituted with 1-3 independent aryl, R7 or R8;

Each R5 is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R7 or R9 groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R7 or R<sup>9</sup> groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each R<sup>6</sup> is independently C(O)R<sup>5</sup>, COOR<sup>5</sup>, C(O)NR<sup>5</sup>R<sup>5</sup>, C(=NR<sup>5</sup>)NR<sup>5</sup>R<sup>5</sup>, or S(O)<sub>n</sub> R5;

Each R<sup>7</sup> is independently halo. CF<sub>3</sub>, SR<sup>10</sup>, OR<sup>10</sup>, OC(O)R<sup>10</sup>, NR<sup>10</sup>R<sup>10</sup>, NR<sup>10</sup>R<sup>11</sup>,  $NR^{11}R^{11}$ ,  $COOR^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})$  $(COOR^{10})$ ,  $S(O)_nNR^{10}R^{10}$ ;  $NR^{10}S(O)_nNR^{10}R^{10}$ ;  $NR^{10}S(O)_0R^{10}$ ; or  $P(O)(OR^5)_2$ ;

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O. N. or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be

substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^9$ ; halo; sulfur; oxygen;  $CF_3$ ;  $SR^5$ ;  $OR^5$ ;  $OC(O)R^5$ ;  $NR^5R^5$ ;  $NR^5R^6$ ;  $NR^6R^6$ ;  $COOR^5$ ;  $NO_2$ ; CN;  $C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_nNR^5R^5$ ;  $NR^5C(O)NR^5R^5$ ;  $NR^5C(O)NR^5$ ;  $NR^5$ 

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>u</sub>R<sup>10</sup>; S(O)<sub>u</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each  $R^{10}$  is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo,  $CF_3$ ,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>. CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>,

SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently II; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; and

Each R<sup>23</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>0</sub>R<sup>5</sup>; S(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

17. The compound of claim 1 wherein,

Each R<sup>2</sup> is independently NHR<sup>3</sup>;

Each  $\mathbb{R}^1$  is independently of the formula:

Each R<sup>3</sup> is independently aryl; phenyl optionally substituted with 1-5 independent R<sup>4</sup> on each ring; or heteroaryl optionally substituted with 1-4 independent R<sup>4</sup> on each ring;

Each R<sup>4</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>16</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>6</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_n$   $R^5$ :

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11}$ ,  $COOR^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})C(O)$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>S<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substitutent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>;

 $OR^{10}$ ;  $NR^{10}R^{10}$ ;  $NR^{10}R^{11}$ ;  $NR^{11}R^{11}$ ;  $COOR^{10}$ ;  $NO_2$ ; CN;  $C(O)R^{10}$ ;  $S(O)_nR^{10}$ ;  $S(O)_nNR^{10}R^{10}$ ; or  $C(O)NR^{10}R^{10}$ ;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>0</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>0</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each R<sup>11</sup> is independently C(O)R<sup>10</sup>, COOR<sup>10</sup>, C(O)NR<sup>10</sup>R<sup>10</sup> or S(O)<sub>n</sub>R<sup>10</sup>.

Each R<sup>12</sup> is independently H: C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl, C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>5</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>17</sup> is independently NR<sup>5</sup>R<sup>16</sup>; OR<sup>5</sup>; SR<sup>5</sup>; or halo; and

Each R<sup>23</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycl alkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>;

 $NR^5R^5; NR^5R^6; COOR^5; NO_2; CN; C(O)R^5; C(O)C(O)R^5; C(O)NR^5R^5; S(O)_nR^5; S(O)_nNR^5R^5; NR^5C(O)NR^5R^5; NR^5C(O)R^5; NR^5C(O)R^5; NR^5C(O)R^5; NR^5C(O)R^8; NR^5S(O)_nNR^5R^5; NR^5S(O)_nR^5; NR^5S(O)_nR^6; NR^5C(O)C(O)NR^5R^5; NR^5C(O)C(O)NR^5R^6; OC(O)NR^5R^5; OS(O)_nNR^5R^5; NR^5S(O)_nOR^5; P(O)(OR^5)_2; C1-C10 alkyl substituted with 1-3 independent aryl, <math>R^7$  or  $R^8$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ .

 $a^{\prime}$ 

18. The compound of claim 1 wherein,

Each R is independently one of the following groups:

wherein m is 0, 1, 2, 3 or 4;

Each R<sup>4</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>R<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>6</sup>; NR<sup>5</sup>C(O)R<sup>6</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>6</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>6</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

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Each  $R^6$  is independently  $C(O)R^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_uR^5$ ;

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Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11}$ ,  $COOR^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})C(O)$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>0</sub>R<sup>10</sup>; S(O)<sub>0</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)R<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>0</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>0</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_nR^{10}$ ;

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Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF3, OR13, SR13,  $NR^{13}R^{13}$ ,  $COOR^{13}$ ,  $NO_2$ , CN,  $C(O)R^{13}$ ,  $C(O)NR^{13}R^{13}$ ,  $NR^{13}C(O)R^{13}$ , or  $OC(O)R^{13}$ ; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN,  $C(O)R^{13}$ ,  $C(O)NR^{15}R^{13}$ ,  $NR^{13}C(O)R^{13}$ , or  $OC(O)R^{13}$ ;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR14, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

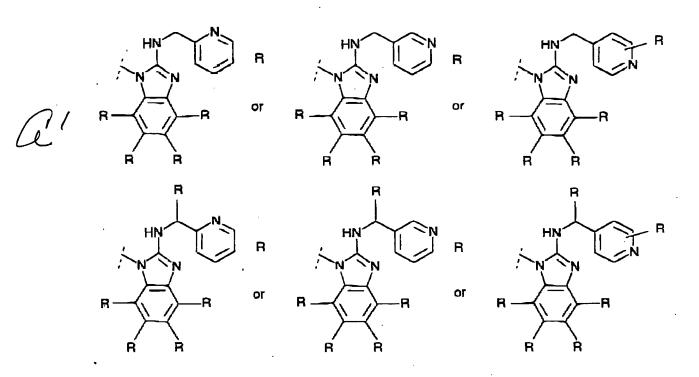
Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; COOR5; C(O)R5; C(O)C(O)R5; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>22</sup> is independently C2-C9 alkyl substituted with 1-2 independent aryl, R<sup>7</sup>. or R8; and

Each R<sup>23</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^5R^5$ ;  $NR^5R^6$ ;  $COOR^5$ ;  $NO_2$ ; CN;  $C(O)R^5$ ;  $C(O)C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_nR^5: S(O)_nNR^5R^5$ ;  $NR^{5}C(O)NR^{5}R^{5}; NR^{5}C(O)C(O)R^{5}; NR^{5}C(O)R^{5}; NR^{5}(COOR^{5}); NR^{5}C(O)R^{8}; NR^{5}S(O)_{n}NR^{5}R^{5};$  $NR^{5}S(O)_{h}R^{5}; NR^{5}S(O)_{h}R^{8}; NR^{5}C(O)C(O)NR^{5}R^{5}; NR^{5}C(O)C(O)NR^{5}R^{6}; OC(O)NR^{5}R^{5};$ OS(O), NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O), OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

19. The compound of claim I wherein, Each R<sup>1</sup> is independently



wherein m is 0, 1, 2, 3 or 4;

Each R4 is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R8; halo; CF3; SR5; OR5; OC(O)R5;  $NR^{5}R^{5}; NR^{5}R^{6}; NR^{5}R^{16}; COOR^{5}; NO_{2}; CN; C(O)R^{5}; C(O)C(O)R^{5}; C(O)NR^{5}R^{5}; S(O)_{n}R^{5}; C(O)R^{5}; C(O)NR^{5}R^{5}; S(O)_{n}R^{5}; C(O)R^{5}; C(O)R^{5};$  $S(O)_{n}NR^{5}R^{5};\ NR^{5}C(O)NR^{5}R^{5};\ NR^{5}C(O)C(O)R^{5};\ NR^{5}C(O)R^{5};\ NR^{5}(COOR^{5});\ NR^{5}C(O)R^{8};$  $NR^{5}S(O)_{n}NR^{5}R^{5}; NR^{5}S(O)_{n}R^{5}; NR^{5}S(O)_{n}R^{8}; NR^{5}C(O)C(O)NR^{5}R^{5}; NR^{5}C(O)C(O)NR^{5}R^{6};$ OC(O)NR<sup>5</sup>R<sup>5</sup>; OS(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>0</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R5 is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R9; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R7 or R9 groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R7 or R<sup>9</sup> groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each R<sup>6</sup> is independently C(O)R<sup>5</sup>, COOR<sup>5</sup>, C(O)NR<sup>5</sup>R<sup>5</sup>, C(=NR<sup>5</sup>)NR<sup>5</sup>R<sup>5</sup>, or  $S(O)_{D}R^{5}$ ;

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{10}R^{11}$ ,  $NR^{10}R^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>0</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>0</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>n</sub>R<sup>10</sup>; S(O)<sub>n</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each  $R^{10}$  is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo,  $CF_3$ ,  $OR^{12}$ ,  $SR^{12}$ ,  $NR^{12}R^{12}$ ,  $COOR^{12}$ ,  $NO_2$ , CN,  $C(O)R^{12}$ ,  $C(O)NR^{12}R^{12}$ ,  $NR^{12}C(O)R^{12}$ ,  $N(R^{12})(COOR^{12})$ ,  $S(O)_nNR^{12}R^{12}$ , or  $OC(O)R^{12}$ ;

Each R<sup>11</sup> is independently C(O)R<sup>10</sup>, COOR<sup>10</sup>, C(O)NR<sup>10</sup>R<sup>10</sup> or S(O)<sub>n</sub>R<sup>10</sup>;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10

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alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

a

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>22</sup> is independently C2-C9 alkyl substituted with 1-2 independent aryl, R<sup>7</sup>, or R<sup>8</sup>;

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup> S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; and

Each  $R^{24}$  is independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^9$ ; halo; sulfur, oxygen;  $CF_3$ ;  $SR^5$ ;  $OR^5$ ;  $OC(O)R^5$ ;  $NR^5R^5$ ;  $NR^5R^6$ ;  $NR^6R^6$ ;  $COOR^5$ ;  $NO_2$ ; CN;  $C(O)R^5$ ;  $C(O)NR^5R^5$ ;  $S(O)_nNR^5R^5$ ;  $NR^5C(O)R^9$ ;  $NR^5S(O)_nNR^5R^5$ ;  $NR^5S(O)_nR^9$ ; C1-C10 alkyl substituted with 1-3 independent  $R^7$ ,  $R^9$  or aryl; or C2-C10 alkenyl substituted with 1-3 independent  $R^7$ ,  $R^9$  or aryl.

20. The compound of claim 1 wherein,

Each R is independently one of the following:

$$R^{19}$$
 or  $R^4$  or  $R^4$ 

wherein

Each halo is selected from fluoro, chloro, bromo and iodo;

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF3; SR5; OR5; OC(O) $R^5$ ; NR5 $R^5$ ; NR5 $R^6$ ; NR5 $R^6$ ; NR5 $R^6$ ; NO2; CN; C(O) $R^5$ ; C(O)C(O) $R^5$ ; C(O)NR5 $R^5$ ; S(O)<sub>n</sub>R5; S(O)<sub>n</sub>R5; S(O)<sub>n</sub>R5; NR5C(O)C(O)R5; NR5C(O)R5; NR5C(O)R8; NR5C(O)C(O)NR5R6; NR5C(O)C(O)C(O)NR5R6; NR5C(O)C(O)C(O)NR5R6; NR5C(O)C(O)C(O)NR5R6; NR5C(O)C(O)C(O)C(O)C(O)C(O)C(O)C(O

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; groups; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_0R^5$ ;

Each  $R^7$  is independently halo,  $CF_3$ ,  $SR^{10}$ ,  $OR^{10}$ ,  $OC(O)R^{10}$ ,  $NR^{10}R^{10}$ ,  $NR^{10}R^{11}$ ,  $NR^{11}R^{11}$ ,  $COOR^{10}$ ,  $NO_2$ , CN,  $C(O)R^{10}$ ,  $OC(O)NR^{10}R^{10}$ ,  $C(O)NR^{10}R^{10}$ ,  $N(R^{10})C(O)R^{10}$ ,  $N(R^{10})$  ( $COOR^{10}$ ),  $S(O)_nNR^{10}R^{10}$ ;  $NR^{10}S(O)_nNR^{10}R^{10}$ ;  $NR^{10}S(O)_nR^{10}$ ; or  $P(O)(OR^5)_2$ ;

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl, C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>3</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be

substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>n</sub>R<sup>10</sup>; S(O)<sub>n</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

a'

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>n</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each  $R^{11}$  is independently  $C(O)R^{10}$ ,  $COOR^{10}$ ,  $C(O)NR^{10}R^{10}$  or  $S(O)_{a}R^{10}$ ;

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each  $R^{16}$  is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl,  $R^7$ ,  $R^8$ , or phenyl optionally substituted with substituted with 1-4 independent  $R^{23}$ ; or C2-C10 alkenyl substituted with 1-3 independent aryl,  $R^7$  or  $R^8$ ;

Each R<sup>19</sup> is independently H or C1-C6 alkyl; and

Each  $R^{23}$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>6</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>

The compound of claim 1 wherein,
 Each R<sup>1</sup> is independently

Each  $R^4$  is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl;  $R^8$ ; halo; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O) $R^5$ ; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>R<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>6</sup>; OS(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>5</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; haloalkyl; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup> groups; C3-C10 cycloalkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>9</sup>;

Each  $R^6$  is independently  $C(O)R^5$ ,  $COOR^5$ ,  $C(O)NR^5R^5$ ,  $C(=NR^5)NR^5R^5$ , or  $S(O)_0R^5$ ;

 $Each\ R^7\ is\ independently\ halo,\ CF_3,\ SR^{10},\ OR^{10},\ OC(O)R^{10},\ NR^{10}R^{10},\ NR^{10}R^{11},\\ NR^{11}R^{11},\ COOR^{10},\ NO_2,\ CN,\ C(O)R^{10},\ OC(O)NR^{10}R^{10},\ C(O)NR^{10}R^{10},\ N(R^{10})C(O)R^{10},\ N(R^{10})C(O)R$ 

Each R<sup>8</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O. N. or S, which may be saturated or unsaturated, and wherein 0. 1, 2, 3 or 4 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>9</sup>; halo; sulfur; oxygen; CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; NR<sup>6</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>C(O)R<sup>9</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>9</sup>; C1-C10 alkyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl; or C2-C10 alkenyl substituted with 1-3 independent R<sup>7</sup>, R<sup>9</sup> or aryl;

Each R<sup>9</sup> is independently a 3-8 membered monocyclic, 7-12 membered bicyclic, or 11-14 membered tricyclic ring system having 1-3 heteroatoms if monocyclic, 1-6 heteroatoms if bicyclic, or 1-9 heteroatoms if tricyclic, said heteroatoms independently selected from O, N, or S, which may be saturated or unsaturated, and wherein 0, 1, 2 or 3 atoms of each ring may be substituted by a substituent independently selected from C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; halo; sulfur; oxygen; CF<sub>3</sub>; haloalkyl; SR<sup>10</sup>; OR<sup>10</sup>; NR<sup>10</sup>R<sup>10</sup>; NR<sup>10</sup>R<sup>11</sup>; NR<sup>11</sup>R<sup>11</sup>; COOR<sup>10</sup>; NO<sub>2</sub>; CN; C(O)R<sup>10</sup>; S(O)<sub>B</sub>R<sup>10</sup>; S(O)<sub>B</sub>NR<sup>10</sup>R<sup>10</sup>; or C(O)NR<sup>10</sup>R<sup>10</sup>;

Each R<sup>10</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; haloalkyl; C1-C10 alkyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>0</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>12</sup>, SR<sup>12</sup>, NR<sup>12</sup>R<sup>12</sup>, COOR<sup>12</sup>, NO<sub>2</sub>, CN, C(O)R<sup>12</sup>, C(O)NR<sup>12</sup>R<sup>12</sup>, NR<sup>12</sup>C(O)R<sup>12</sup>, N(R<sup>12</sup>)(COOR<sup>12</sup>), S(O)<sub>0</sub>NR<sup>12</sup>R<sup>12</sup>, or OC(O)R<sup>12</sup>;

Each R<sup>11</sup> is independently C(O)R<sup>10</sup>, COOR<sup>10</sup>, C(O)NR<sup>10</sup>R<sup>10</sup> or S(O)<sub>n</sub>R<sup>10</sup>,

Each R<sup>12</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl;

C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl substituted with 1-3 independent C2-

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C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>; or phenyl optionally substituted with 1-3 independent C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloalkyl, C4-C10 cycloalkenyl, halo, CF<sub>3</sub>, OR<sup>13</sup>, SR<sup>13</sup>, NR<sup>13</sup>R<sup>13</sup>, COOR<sup>13</sup>, NO<sub>2</sub>, CN, C(O)R<sup>13</sup>, C(O)NR<sup>13</sup>R<sup>13</sup>, NR<sup>13</sup>C(O)R<sup>13</sup>, or OC(O)R<sup>13</sup>;

Each R<sup>13</sup> is independently H; C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; C1-C10 alkyl optionally substituted with halo, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN; or phenyl optionally substituted with halo, CF<sub>3</sub>, OR<sup>14</sup>, SR<sup>14</sup>, NR<sup>14</sup>R<sup>14</sup>, COOR<sup>14</sup>, NO<sub>2</sub>, CN;

Each R<sup>14</sup> is independently H; C1-C10 alkyl; C3-C10 cycloalkyl or phenyl;

Each R<sup>16</sup> is independently H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl;

C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo; CF<sub>3</sub>; COOR<sup>5</sup>; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>;

C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>: S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup>, R<sup>8</sup>, or phenyl optionally substituted with substituted with 1-4 independent R<sup>23</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>;

Each R<sup>19</sup> is independently H or C1-C6 alkyl; and

Each R<sup>23</sup> is independently selected from H, C1-C10 alkyl; C2-C10 alkenyl; C2-C10 alkynyl; C3-C10 cycloalkyl; C4-C10 cycloalkenyl; aryl; R<sup>8</sup>; halo: CF<sub>3</sub>; SR<sup>5</sup>; OR<sup>5</sup>; OC(O)R<sup>5</sup>; NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>R<sup>6</sup>; COOR<sup>5</sup>; NO<sub>2</sub>; CN; C(O)R<sup>5</sup>; C(O)C(O)R<sup>5</sup>; C(O)NR<sup>5</sup>R<sup>5</sup>; S(O)<sub>n</sub>R<sup>5</sup>; S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>5</sup>; NR<sup>5</sup>C(O)R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>S(O)<sub>n</sub>R<sup>8</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>C(O)C(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; OC(O)NR<sup>5</sup>R<sup>5</sup>; NR<sup>5</sup>S(O)<sub>n</sub>OR<sup>5</sup>; P(O)(OR<sup>5</sup>)<sub>2</sub>; C1-C10 alkyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>; or C2-C10 alkenyl substituted with 1-3 independent aryl, R<sup>7</sup> or R<sup>8</sup>.

- 24. A method of treating kinase-mediated disease or disease symptoms in a mammal comprising administration of a composition comprising an effective amount of a compound of any of claims 1-21.
- 25. A method of inhibiting kinase activity in a mammal comprising administration of a composition comprising an effective amount of a compound of any of claims 1-21.

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26. A method of treating disease or disease symptoms in a mammal comprising administration of a composition comprising an effective amount of a compound of any of claims 1-21.

27. A method of inhibiting angiogenesis or vasculogenesis activity in a mammal comprising administration of a composition comprising an effective amount of a compound of any of claims 1-21.